Aluminum Reclaimer for Foundry Applications

Affordable Metallic Recovery System Saves Energy and Reduces Landfill Waste Streams

Aluminum foundries and melters typically generate metallic skimming and drosses during industrial processes. While equipment is commercially available to recover a portion of the contained metallics from skimmings and drosses, the capital investment for the equipment has precluded its application with smaller melting units such as crucible or reverb melters. With assistance from DOE's Industrial Technologies Program, Q.C. Designs, Inc. has developed an improved reclaiming process specifically to recover the metallics from small quantities of dross and skim. The process has recovered as much as 80% of the contained metal at the point of generation.

In operation, the process may be run either manually, with power-assisted stirring, or with a fully automatic programmed hydraulically actuated cycle. The operation is environmentally friendly and reduces the amount of smoke and fumes normally associated with dross processing. Foundries reduce their melting losses by the in-plant recovery of drosses and their contained metals, which can then be reused directly without realloying.

Benefits

Energy Savings

The recovered metal from the new system may be reintroduced into the process in molten form, saving the energy required to remelt an ingot recovered in a traditional process. Less energy is required to transport and move the dross to an outside processor because the system is on-site, and the material does not have to be remelted for secondary recovery of the metallics.

Productivity

The improved ability to decrease melting losses contributes directly to profits. Typical compensation for dross materials from outside processors is 10% to 20% of true value because the generating foundry has to bear the costs of transportation, remelt and processing, landfill of the waste, and return of the recovered material. In-plant processing eliminates most of these costs.

Waste Reduction

The technology avoids sending process salts to landfills and recovers a higher percentage (up to 80%) of metallics than current methods.

Overview

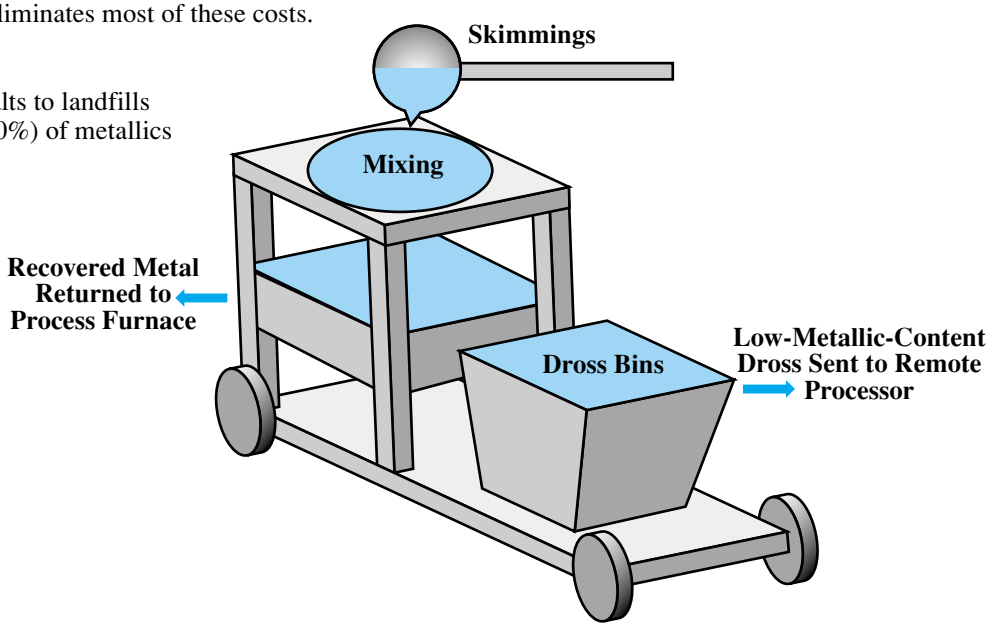
- Available from Q.C. Designs, Inc.
- Commercialized in 2001

Applications

In-plant aluminum foundry dross and skimming recovery

Capabilities

- Processes hot dross in quantities from 20 to 500 lb.
- Allows automatic processing or manual operation.
- Features sizes for applications in different foundry installations.



Portable Aluminum Reclaimer

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